

Near Bottom Concentrations of Krill in Two Arctic Fjords, Spitsbergen

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Abstract : Two glaciated fjords on Spitsbergen (Hornsund 77°N) and Kongsfjorden (79°N) were studied for the occurrence of macroplankton (mostly euphausiids, hyperiids, chaetognaths) with the use of drop down the camera. The underwater imagery demonstrates that closer to the glacier front, where turbid and freshwater occurs, most of the macroplankters leave the upper water column and descends to the bottom (about 100m depth). Concentrations of macroplankton in the immediate vicinity of the sediment reach over 500 specimens per m² - what corresponds to the biomass of 10g C/m³. Such concentrations of macroplankton are of prime interest for fish, seals and other carnivores. Conditions in the near-bottom waters are in many respects better than in the upper water column- better oxygenated, cold, fully saline and transparent waters with rich food deposited on the seabed from the surface (sinking microplankton). We suggest that near bottom occurrence of macroplankton is related to the increase of glacier melt and freshwater discharge intensity.

Keywords : arctic, ecosystem, fjords, Krill

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